INTERNATIONAL STANDARD

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Water quality — Determination of selected plant treatment agents — Method using high performance liquid chromatography with UV detection after solid-liquid extraction

Qualité de l'eau — Dosage de certains agents de traitement des plantes — Méthode par chromatographie en phase liquide à haute performance (CLHP) avec détection UV après extraction solide liquide

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Contents

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11369 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 2, *Physical, chemical and biochemical methods.*

Annexes A and B of this International Standard are for information only.

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Water quality — Determination of selected plant treatment agents — Method using high performance liquid chromatography with UV detection after solid-liquid extraction

1 Scope

This International Standard describes a method for the determination of organic plant treatment agents in drinking and ground water using high performance liquid chromatography (HPLC) with UV detection after solid-liquid extraction.

The method described in this International Standard is applicable to the determination of selected plant treatment agents and some of their main degradation products (metabolites) in drinking water with a validated reporting limit of about 0,1 µg/l. Limited additional data indicate that it can be extended to 0,05 µg/l (see table 1 for examples). The method may be extended to include additional substances and ground water, provided the method is validated for each individual case.

The selection of the plant treatment agents and main degradation products in table 1 has been made according to the knowledge at the time of the interlaboratory trial (1992). Data for some other substances are given in annex A.

Table 1 — Plant treatment agents to which this International Standard applies

Name	Molecular formula	Molar mass	CAS No.[1]	Substance family[2]
Atrazine	$C_8H_{14}ClN_5$	215,7	001912-24-9	T
Chlorotoluron	$C_{10}H_{13}ClN_2O$	212,7	015545-48-9	H
Cyanazine**	$C_9H_{13}ClN_6$	240,7	021725-46-2	T
Desethylatrazine *	$C_6H_9ClN_5$	186,6	006190-65-4	T
Diuron	$C_9H_{10}Cl_2N_2O$	233,1	000330-54-1	H
Hexazinone**	$C_{12}H_{20}N_4O_2$	252,3	051235-04-2	T
Isoproturon	$C_{12}H_{18}N_2O$	206,3	034123-59-6	H
Linuron	$C_9H_{10}Cl_2N_2O_2$	249,1	000330-55-2	H
Metazachlor	$C_{14}H_{16}ClN_2O_3$	277,8	067129-08-2	A
Methabenzthiazuron	$C_{10}H_{11}N_3OS$	221,3	018691-97-9	H
Metobromuron**	$C_9H_{11}BrN_2O_2$	259,1	003060-89-7	H
Metolachlor	$C_{15}H_{22}ClNO_2$	283,8	051218-45-2	A
Metoxuron**	$C_{10}H_{13}ClN_2O_2$	228,7	19937-59-8	H
Monolinuron	$C_9H_{11}ClN_2O_2$	214,6	1746-81-2	H
Sebutylazine**	$C_9H_{15}ClN_5$	228,7	00728-69-3	T
Simazine	$C_7H_{12}ClN_5$	201,7	000122-34-9	T
Terbutylazine	$C_9H_{16}ClN_5$	229,7	005915-41-3	T

1) CAS No.: Chemical abstracts number
2) Substance family: T: Triazine; H: Phenylurea herbicide; A: substituted anilide
*: Main degradation product of atrazine
**: Not included in the performance data